

Today's Topics:

Building A (Very) Low Cost Repeater
DIRECTION FINDING EQUIPMENT
DIRECTION FINDING EQUIPMENT (SuperDF)
for TI.COM people
Guemes Island followup (2 msgs)
LoJack and FBI frequencies (was Re: ARRL and User Fees)
magnetometers
Need 450 MHz. 10W transistor. How can you tell freq range?
Neutralizing Heathkit finals (6146/A/B woes)
Telephone privacy gadgets Add: Cryptography
want mods info

Date: 19 Oct 89 07:09:48 GMT

From: gem.mps.ohio-state.edu!brutus.cs.uiuc.edu!wuarchive!texbell!attctc!jolnet!
swan@tut.cis.ohio-state.edu (Joel Swan)

Subject: Building A (Very) Low Cost Repeater

In article <149@ubbs-nh.MV.COM> noel@ubbs-nh.MV.COM (N. Del More) writes:

:I have it in mind to build a (very) low cost repeater for use here as
:well as for use as an "emergency" repeater.

:

:The idea that I have is to use two handhelds, probably two late model
:synthesized rigs.

:

:As I envision it one transceiver would be used primarily for the receiver,
:while the other would be used as the transmitter. A homebrew, or kit
:controller might be added at a later date as well as a linear amplifier
:for extending the range as necessary.

:

:I'd appreciate hearing any comments, suggestions or actual plans for such
:a set up, as well as any comments concerning possible low cost antenna
:configurations.

:

:For the purpose of experimentation I have available an Icom IC-2A and an
:IC-02AT, but if feasible, I would probably adapt the idea for use with
:something like a Tempo One (? is that right, boy its been a long time!
:?) or one of the older synthesized handhelds such as one of the heathkit
:models.

:

:Thanks!

:

:Noel

:N2AXI

:--

:Noel B. Del More | decvax!ubbs-nh!noel
:17 Meredith Drive | noel@ubbs-nh.mv.com
:Nashua, New Hampshire 03063 | It's unix me son! `taint spozed tah make cents

I've heard of someone doing something like this with 2 Icom IC-02AT's before. They used two VOX units to hook them together. With a stereo mini to stereo mini cord (modified to swap tip and sleeve) they hooked the VOX units together. Each radio was set to their appropriate frequencies. When one hh recieved signal, its earphone fed into the mic of the other's VOX unit which transmitted automatically. The same applied in the other direction. I've not tried this yet, but it seems feasable. I believe the earphone gain would need to be set fairly low though.

BTW- I've still not heard from anyone on all the mods possible on the ICOM IC-02AT yet. I can't FTP so I need mail. Could someone please send mods (looking for frequency mods). Please?

Hope the VOX approach works if you try it.

Joel
(HD down, no .sig file)

Date: 19 Oct 89 04:39:13 GMT
From: Teknowledge.COM!polya!Neon.Stanford.EDU!kaufman@beaver.cs.washington.edu
(Marc T. Kaufman)
Subject: DIRECTION FINDING EQUIPMENT

In article <0624575376@uwovax.uwo.ca> ppddc@uwocc1.uwo.ca (Dave Colvin) writes:

>AT A LOCAL HAMFEST I LOOKED AT A DICK SMITH DIRECTION FINDING UNIT THAT
>WAS PURCHASED AS A KIT. IT LOOKED LIKE QUITE A NICE PACKAGE.

The Dick Smith unit works, but is much inferior to the Doppler Systems unit, mostly because of the way the audio is handled. In any event, to use the system you will have to have a radio capable of receiving the aircraft band in *FM* mode. This is because both units work by inducing an FM "doppler" shift from an electrically "rotated" antenna array.

>DOES ANYONE HAVE ANY SUGGESTIONS FOR SOMEONE THAT IS NOT VERY TECHNICALLY
>INCLINED FOR AN EFFECTIVE DF DEVICE SUITABLE FOR INSTALLATION IN A VEHICLE
>AND USED FOR AIR PATROL PURPOSES.

A group called the "Happy Flyers" had a kit for an AM DF unit, similar to the Little Elper, but using the aircraft's own radio receiver for audio. The last address I have for them is:

Hart Postlethwaite, WB6CQW (International Commander)

1811 Hillman Ave.
Belmont, CA 94002 (415) 341-4000

This address is 10 years old, so use it with care.

Marc Kaufman (kaufman@Neon.stanford.edu)

Date: 19 Oct 89 12:39:28 GMT
From: att!cbnewsc!parnass@ucbvax.Berkeley.EDU (Bob Parnass, AJ9S)
Subject: DIRECTION FINDING EQUIPMENT (SuperDF)

I just received literature for the SuperDF direction finder.
I first read about this product in the "Transmitter Hunting" book
then in "Mobile Radio Technology" magazine.

Has anyone on the net tried the SuperDF? If so, please comment
on your experiences and your opinion of the quality of construction,
performance, etc.

The SuperDF connects to the earphone and antenna jacks
of any FM receiver. Both the control unit and antennas are
available in kit or assembled form.

The SuperDF is available from:

BMG Engineering
9935 East Garibaldi Avenue
Temple City, CA 91780

Disclaimer: This is not a product endorsement.

--

=====

Bob Parnass, AJ9S - AT&T Bell Laboratories - att!ihuxz!parnass (312)979-5414

Date: 19 Oct 89 00:40:53 GMT
From: gem.mps.ohio-state.edu!uakari.primite.wisc.edu!uwm.edu!ux1.cso.uiuc.edu!
ux1.cso.uiuc.edu!phil@tut.cis.ohio-state.edu
Subject: for TI.COM people

I have gotten 2 people sending me mail from the same domain now, related to
postings here on rec.ham-radio and I cannot get answers back because their
mail daemon is refusing to talk.

To: dube@cpdvax.csc.ti.com

To: rlwest@flopn2.csc.ti.com

Could you please contact the person who is responsible for your incoming E-mail machine and have it fixed. Pass on to them my name (Phil Howard) and phone number (217-244-6246) and E-mail address (phil@ux1.cso.uiuc.edu). Your mail reaches me OK.

It is very annoying when mail does not go through. It is even more annoying to find out that the problem is because the mailer on the receiving end is broken incessantly. Sorry for bothering the net with this.

--Phil howard-- <phil@ux1.cso.uiuc.edu>

-.-- - -- -.--
..--.- --. -. -.- -.- ..- ..-.. ..-... .

Date: 19 Oct 89 03:12:00 GMT

From: uw-entropy!dataio!pilchuck!ssc!tad@beaver.cs.washington.edu (Tad Cook)

Subject: Guemes Island followup

SB DXERS @ ALLUSA \$KT7H101A

Guemes Is. Re-cap, pt 1

Guemes Island DXpedition

I wanted to post a follow-up to my notices about the petition for new country status for Guemes and Tatoosh Islands, and let everyone know how well the DXpedition to Guemes went, and the chances of new country status being granted.

When I looked at Rule 3b in the DXCC rules and saw that it seemed to apply to the San Juan Archipelago, I was skeptical. I had studied DXCC rules, and I just couldn't believe that there was a rule so clear that there was no doubt about it's application. Many DXCC rules are not as easy to understand. I showed it to several friends, looked at maps, and re-read the rules, and no matter how I tried to draw lines between Guemes and Tatoosh Islands, they always crossed the intervening territory of British Columbia. I decided to put it on the air, apply for new country status, and see what happened.

For those not familiar with DXCC rule 3b, here it is:

"(b) Islands: Where two islands, of the government under Point 1, are totally separated by an intervening DXCC country (also under Point 1), each island counts as a separate DXCC country. No minimum distance is required. The test for total separation means that a straight line may not be drawn from any point on one island to any point on the other island without

passing through another DXCC country. This intervening country may be a part of either island, another island, or part of a continent."

Tatoosh and Guemes Islands qualify under rule 3b because British Columbia (VE7) intervenes. There is just no way to draw a line between Tatoosh and Guemes without crossing VE7, unless the ARRL is planning to re-define a straight line!

I contacted a ham who lives on Guemes Island, and he offered to let me use his station for the operation on Labor Day weekend. I went up to Guemes, put it on the air, and made almost 3,000 QSOs. Several hams came over to the island to help out with the pileups. If you worked us and have not QSLd yet, please send your card with an SASE to the address below. If you did not work us, but would like a nice map showing Tatoosh, Guemes, and the line crossing British Columbia, drop me a note with an SASE, and I'll send you one.

Two days before the operation I began getting calls at work from members of the ARRL DX Advisory Committee. One of them contacted my mother via an old callbook address, and got my work number. These guys tried everything to persuade me NOT to put Guemes Island on the air. One of them even told me that he was "deeply offended" by my application for new country status!

They said that Rule 3b was flawed, and that they were working on a rewrite. I mentioned that at this point it had been 20 months since the ARRL Board had approved this rule, and this was plenty of time to make corrections.

Continued in Part 2.

/EX

SB DXERS @ ALLUSA \$KT7H101B

Guemes Is. Re-cap, pt 2

Continued from Part 1.

We talked about some other entities that had been granted country status in the past that these fellows felt should not be counted as separate countries. One was the Sovereign Military Order of Malta, a building inside the Vatican. They said that rules had changed so that something like this couldn't be approved again, but that this country was "grandfathered" when the rules changed. I told them I hoped that if they rewrote Rule 3b to specifically exclude Guemes Island, that it could also be grandfathered, since it obviously does qualify at this time.

Their basic objection was that they felt that it was not DX. It was just too close to the United States! I feel that this reveals an interesting bias. It seems that in order for it to be DX, it has to be "over there" somewhere. Probably if it was in the Red Sea or Africa they would treat this application seriously. Never mind that hams in Asia or Europe might

consider Guemes Island as DX. It is just not exotic enough for U.S. hams.

I have received some other interesting objections to Guemes being counted as a separate DXCC country. One is that it does not issue it's own currency! But there are many DXCC countries that don't (Aruba, Palmyra; the list is endless) and besides, it is not a requirement of rule 3b.

If you look at the DXCC countries list and the rules, you can find many countries that do not qualify under the current rules regarding government, or any other rules. But the reason that they count is that at the time that separate country status was applied for, they did qualify, and when the rule was changed, they were grandfathered. Check out any of the Soviet Republics, Desecheo, Wales, Isle of Man, even Alaska and Hawaii! If the ARRL finally changes rule 3b, why shouldn't Guemes Island be grandfathered too?

The DXAC has not made a recommendation yet on Guemes Island. My hope for acceptance is buoyed by a statement in the DX column in the October 1989 issue of CQ magazine. Don Search, W3AZD, DXCC administrator said:

"The Board of Directors has told us to enforce the rules as written. There are no provisions in the DXCC rules for exceptions."

After reading rule 3b, looking at a map, and reading the statement from the DXCC administrator, how can our claim be denied?

Remember that DXAC will recommend, but not decide the status of Guemes Island. If you read rule 3b, look at the map and agree that it qualifies, contact your ARRL Division Director. Also please contact ARRL Executive V.P. Dave Sumner, K1ZZ, at ARRL, 225 Main St., Newington, CT 06111.

In closing, I did not do this to make fun of DXCC, the ARRL, or to cause anyone any big problems. I have always wanted to put a "new one" on the air, and I did it. DXers love to chase a new country, and everyone had a great time. I hope you were able to work us, and now have our unique QSL in your shack.

73 and Good DX!

Tad Cook, KT7H
5519 12th Ave. NE
Seattle, WA 98105-3505

Packet: KT7H @ N7HFZ
MCI Mail: 328-8544
USENET: tad@ssc.UUCP

/EX

Date: 19 Oct 89 18:48:25 GMT
From: shlump.nac.dec.com!delni.enet.dec.com@decuac.dec.com (fred k1io)
Subject: Guemes Island followup

Well, Tad, it was a good hack, but I for one don't think it's a "new one" either.

What we see is an example of badly written rules. Laws aren't usually written by amateurs (legislators have staff assistants) and rules, like laws, have both a "spirit" and a "letter". Poorly drafted rules like DXCC rule 3b are prone to sloppy interpretation, but clearly the "spirit" of the rule was not to make Guemes a country.

Come to think of it, can you draw a line from Galveston Island, TX to some little island in Southern CA that doesn't cross northern Mexico? Campobello, ME to Mercer Is, WA without crossing Ontario?

Tad did a good job of proving that the DXCC rules are sloppily written. IMHO, not much more.

Date: 19 Oct 89 05:20:17 GMT
From: gem.mps.ohio-state.edu!usc!merlin.usc.edu!girtab.usc.edu!
eickmeyer@tut.cis.ohio-state.edu (Biff Henderson)
Subject: LoJack and FBI frequencies (was Re: ARRL and User Fees)

In article <30500246@ux1.cso.uiuc.edu> phil@ux1.cso.uiuc.edu writes:
>I would assume the FBI would want to keep these frequencies as secret as
>possible for the safety of their agents and other persons wearing the body
>mikes.

I don't see why the FBI bothered to object: since the LoJack frequencies are fixed and publicly available, they are no longer secret; and since they are already in widespread use in some states, the FBI will have to modify or dump their equipment. It's too late to voice their objections now, and even if they had objected several years ago, that would still publicize the frequencies they use.

Date: 18 Oct 89 15:15:15 GMT
From: daemon@iuvax.cs.indiana.edu (BACS Data Communications Group)
Subject: magnetometers

to sci.electronics and rec.ham-radio:

Sky & Telescope October '89 published plans for a "Jam-jar magnetometer" useful as an aurora alarm. A more advanced version of the same device appeared in the July 1988 issue of _The Lowdown_ (newsletter of the Longwave Club of America). This one has a Hall-effect sensor and amplifiers added, so that the compass deflections can be output to a chart-recorder.

See also _Electronics_ magazine, December 1980, p. 112 for plans of a Hall-effect magnetic compass with no moving parts.

Copies of the above available for SASE, and I'm sending them to WA4VLV re his request on rec.ham-radio.

--

Frank Reid W9MKV @ K9IU reid@gold.bacs.indiana.edu
P.O. Box 5283
Bloomington. Indiana
USA 47407-5283

Date: 18 Oct 89 17:07:23 GMT
From: zephyr.ens.tek.com!orca!miker@uunet.uu.net (Mike Reiney)
Subject: Need 450 MHz. 10W transistor. How can you tell freq range?

I need one or more 12 volt final transistors for a 10W 450MHz. radio. It's a stud (helicopter) package. Yes, I know there are numerous places to buy them new. I want a good used/unwanted one at a used/unwanted price. Please send mfg part number and price.

I have a couple of 12V RF power transistors (wrong package for this application) with non-standard house part numbers. Looks like they were engineering samples. Somebody wrote the power rating on the box, but no hint of frequency range.

Is there a way to determine if they're HF/VHF/UHF without putting them in an amplifier?

Perhaps I can measure the capacitance and infer the frequency range.

I have access to quite a bit of measurement equipment, but I don't know what to look for.

I wouldn't mind hooking up a low power test fixture, but I'm not willing to do anything as complicated as full power S-parameter measurements.

thanks, miker

Date: 18 Oct 89 19:21:15 GMT
From: gem.mps.ohio-state.edu!uakari.primate.wisc.edu!aplcn!stda.jhuapl.edu!
mjj@tut.cis.ohio-state.edu (Marshall Jose)
Subject: Neutralizing Heathkit finals (6146/A/B woes)

Can someone out there tell what the full dope is about neutralizing 6146As & 6146Bs in a Heathkit SB-10x/HW-10x final. I have heard an unexpanded rumor about how only 6146 tubes can be neutralized in those xcvrs, and how even Heathkit claims that the A & B series tubes cannot be successfully neutralized.

Checking an old ARRL Handbook shows the Cgp for a 6146 as 0.25 pF, and for the 6146A/B as 0.23 pF -- hardly a significant difference.

Now, Heathkit's recommended neut. procedure is to apply full power into a dummy load, and (through repeated trials) adjust the neut. trimmer cap to make Ip dip and Po peak coincide at the same point of the plate tune cap's rotation. This differs from the feedforward-minimization method presumably because the Cgp changes with Ip, and one wants to neutralize for the full-power condition.

Can someone out there please straighten me out on this? Am I worrying too much about this? Thanks,

Marshall Jose WA3VPZ
mjj@aplvax.jhuapl.edu || ...mimsy!aplcn!aplvax!mjj

Date: 19 Oct 89 14:35:22 GMT
From: gem.mps.ohio-state.edu!uwm.edu!ux1.cso.uiuc.edu!herodotus.cs.uiuc.edu!
kadie@tut.cis.ohio-state.edu (Carl M. Kadie)
Subject: Telephone privacy gadgets Add: Cryptography

>In article <OTTO.89Oct17163149@tukki.jyu.fi> otto@tukki.jyu.fi (Otto J. Makela)
>writes:
>>Prevention: does anyone know of cheap but reasonably reliable scramblers ?

In article <790@ariel.unm.edu> ee5391aa@hydra.unm.edu.UUCP (Duke McMullan n5gax)
writes:

...
>Cheap and hard to defeat -- I don't think it exists, but it could, and the
>technology is HERE TODAY! It actually wouldn't be hard to integrate the whole
>scheer, including D/A, A/D, key management, (en/de)cryption, and an automatic
>slicer-dicer for carrots all on the same chip. The thing that would make it

End of INFO-HAMS Digest V89 Issue #779
